SunBeam Institute of Information Technology

Java Assignment 4

Assignment based on class, object, array

Q1) Create a new eclipse project day4_assignments , Create a class Point2D , in package - "com.app.geometry" : for representing a point in x-y co-ordinate system.

a) Create a parameterized constructor to init x & y co-ords.

b) Add a method to return string form of point's x & y co-ords

Hint : public String getDetails())

c) Add isEqual method to Point2D class :a boolean returning method : must return true if n only if both points are having same x,y co-ords or false otherwise.

d) Add calculateDistance method to calculate distance between current point and specified point & return the distance to the caller.

Hint : Use distance formula . Use java.lang.Math class methods --sqrt, pow etc.

e) Write TestPoint class , in package "tester" , with a main method Accept co ordinates of 2 points from user (Scanner) --to create 2 points (p1 & p2) . Use getDetails method to display point details.(p1's details & p2's details)

f) Invoke isEqual & display if points are same or different (i.e p1 & p2 are located at the same position)

Q2) Copy the Point2D class , along with the package of Q1.

a)Create a class "TestPointArray1.java" in "tester" package for the following

b) Accept , how many no of points to plot from user.

c) Create suitable data structure

Hint : Point2D[] points=new Point2D[sc.nextInt()];

d) Prompt user for x & y co ordinates n store the data suitably

Hint : for loop

e) Supply Menu to user with various Options

1. Display details of a specific point

User i/p : index

O/p : x & y co-ordinates should be displayed. or error message(eg : Invalid index , pls retry!!!!)

2) Display x, y co-ordinates of all points

Hint : for-each

3) User i/p : 2 indices for the points , validate the indices

Display distance between specified points (iff they are not located at the same position)

eg : sop("Enter index of strt point n end point");

validation : boundary condition (0<=index<length-1)

isEqual -- false --compute distance --display it.

4. Exit

Q3) Declare two Arrays of type String. Find the duplicate values of an array of string values. (Hint: use equals())